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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,859	04/14/2004	Tom Rezachek	H0003977CIP1(1100.118010	7111

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EXAMINER

AKANBI, ISIAKA O

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,859

Applicant(s)

REZACHEK ET AL. 

Examiner

Isiaka O. Akanbi

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 7-9, 11-13, 15-17, 19-22, 24, 27-29, 31-33, 35-37, 39, 40, 45-48, 50-52 and 54-56 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 6, 10, 14, 18, 23, 25, 26, 30, 34, 38, 41, 42, 44, 49, 53 and 57 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01 September 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement file 01 September 2004 has been entered and reference considered by the examiner.

Drawings

The examiner approves the drawings filed 14 April 2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 7-9, 19-22, 24, 27-29, 39-40 and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miers (5,872,627).

Claims 1, 20 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miers. The reference of Miers discloses an optical alignment system for aligning a light beam with a core flow in a flow stream, comprising a flow stream having a sheath fluid and a core, wherein the core flow has a current position within the flow stream, a light source for producing a light beam and an optical element for directing the light beam at the core (col. 1, line 63-col. 2, line 1-2), further the reference of Miers discloses positioning optical element to direct beams (col. 2, line 10-15), however the reference of Miers is silent regarding an actuator for moving the optical element relative to the flow stream such that the light directed by the optical element is aligned with the current position of the core. The reference of Miers discloses in another embodiment (fig. 11D and fig. 49)(figs. 42 and 43) the use of an actuator (520/866) for moving optical element (col. 2, line 1-3). It would have been obvious to one having ordinary skill in the art at the time of invention to use an actuator for moving the optical element relative to the flow stream for the purpose of accurately positioning the optical element at a desire location.

As to claims 2, 22 and 43, Miers discloses everything claimed, as applied to claim 1 above, in addition a controller (105) for controlling the actuator (col. 40, line 50-col. 41, line 1-5).

As to claims 4, 24 and 45, Miers discloses a detector (164) for detecting light that is scattered and/or reflected from the core flow, and at least one of the at least one feedback signal corresponds to an output of the detector (fig. 1)(col. 33, line 31-45).

As to claims 7, 27 and 46, Miers discloses a detector (164) for detecting light that is scattered and/or reflected from the core flow (fig. 1).

As to claims 8, 28 and 47, Miers discloses wherein the light source and the optical element are positioned on one side of the flow stream, and the detector is positioned on an opposite side of the flow stream (fig. 1).

As to claims 9, 29 and 48, Miers discloses another optical element (302/303) positioned between the flow stream (110) and the detector (315/345/346)(fig. 1).

As to claims 19 and 39, Miers discloses wherein the flow stream is part of a flow cytometer (col. 1, line 64-65).

As to claim 21, Miers discloses everything claimed, as applied to claim 20 above, however the reference of Miers is silent regarding wherein the actuator is adapted to also move the optical element relative to the flow stream. The reference of Miers discloses in another embodiment (fig. 11D and fig. 49)(figs. 42 and 43) the use of an actuator (520/866) for moving optical element relative to the flow stream (col. 2, line 1-3). It would have been obvious to one having ordinary skill in the art at the time of invention to use an actuator for moving the optical element relative to the flow stream for the purpose of accurately positioning the optical element at a desire location.

Claims 11-13, 15-17, 31-33, 35-37, 50-52 and 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miers (5,872,627) in view of Sun et al. (6,091,537).

As to claims 11, 31 and 50, Miers discloses wherein the actuator is a motor (col. 34, line 60-67).

As to claims 12, 32 and 51, Miers discloses wherein the motor is a stepper motor (col. 8, line 21-25).

As to claims 13, 33 and 52, Miers discloses everything claimed, as applied to above, except that the reference of Miers is silence regarding wherein the actuator is an electro

statically actuated actuator, however the use of an electro statically actuated actuator is well known as taught by Sun. Sun discloses the use of electro statically actuated actuator for moving optical element (col. 3, line 60-66). It would have been obvious to one having ordinary skill in the art at the time of invention to use an electro statically actuated actuator for moving the optical element relative to the flow stream for the purpose of accurately positioning the optical element at a desired location.

As to claims 15, 35, and 54, Miers and Sun discloses everything claimed, as applied above, in addition wherein the light source is a VCSEL (col. 1, line 48-51).

As to claims 16, 36 and 55, Miers and Sun discloses everything claimed, as applied above, in addition wherein the light source is an edge emitting laser (col. 1, line 48-51).

As to claims 17, 37 and 56, Miers and Sun discloses everything claimed, as applied above, in addition wherein the light source is an LED (col. 1, line 48-51).

Allowable Subject Matter

Claims 3, 5-6, 10, 14, 18, 23, 25-26, 30, 34, 38, 41-42, 44, 49, 53 and 57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 3, 23 and 44, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the controller receives at least one feedback signal that indicates whether the light directed by the optical element is aligned with the current position of the core flow.

As to claim 5 and 25, the prior art of record, taken alone or in combination, fails to disclose or render obvious discloses wherein the flow stream flows down a flow channel having lateral edges, and wherein the controller uses the at least one feedback signal to detect an edge of the flow channel.

As to claim 6 and 26, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the controller uses the at least one feedback signal to detect an edge of the flow channel and then determines whether the light directed by the optical element is aligned with the current position of the core flow.

As to claim 10, 30 and 49, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the light source, the optical element, and the detector are positioned on the same side of the flow stream.

As to claims 14, 34 and 53, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the actuator is voice coil.

As to claims 18, 38 and 57, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the light source is an end of an illuminated optical fiber.

As to claim 41, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the flow stream flows down a flow channel of a fluidic cartridge.

As to claim 42, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the actuator moves the fluidic cartridge relative to the light source and optical element.

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art of an optical alignment system for aligning a light beam with a core flow in a flow stream that may anticipate or obviate the claims of the applicant's invention.

Conclusion

Fax/Telephone Information

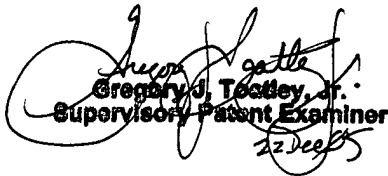
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

December 19, 2005


Gregory D. Tooley, Jr.
Supervisory Patent Examiner
22 Dec 05